

Chemical Feed System Narrative

The village of Tarrytown provides following chemical treatment to the water obtained from NYC Water Supply Source:

1. Sodium Hypochlorite treatment for disinfection
2. Caustic treatment for PH adjustment
3. Orthophosphate treatment for corrosion control

The NYC source water is pretreated with Chlorine and UV treatment.

The Village of Tarrytown has upgraded the chemical feed system for Sodium Hypochlorite, Ortho and Caustic during 2012 to 2013. New metering pumps and injection system was installed which was approved by the Health Department. System upgrade did not change chemical treatment and feed rates.

The new chemical feed systems comprised of a liquid conditioning valve (LCV) system that includes an auto-degassing/self priming mechanism to help eliminate chemical degassing/loss of pump prime problems. This is done through the use of a calibration column, feeding the chemical solution to the metering pumps. The column is placed under a vacuum generated by an air line mounted educator. This ensures that the chemical metering pumps do not experience degassing/loss of pump prime problems and eliminates the need for a flooded suction line system. To generate the vacuum, the system's eductor is mounted to a compressed air line. This configuration eliminates any possibility of cross contamination between the potable water supply and the chemical feed system. This type of system is ideal due to the corrosion resistant construction and compact size. Copies of the Health Department Approved Drawings for orthophosphate are attached that depicts the flow diagrams and a complete list of all system components.

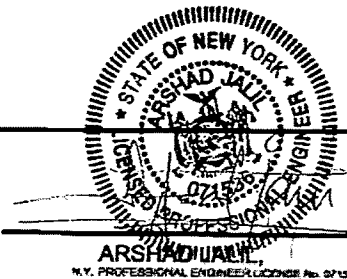
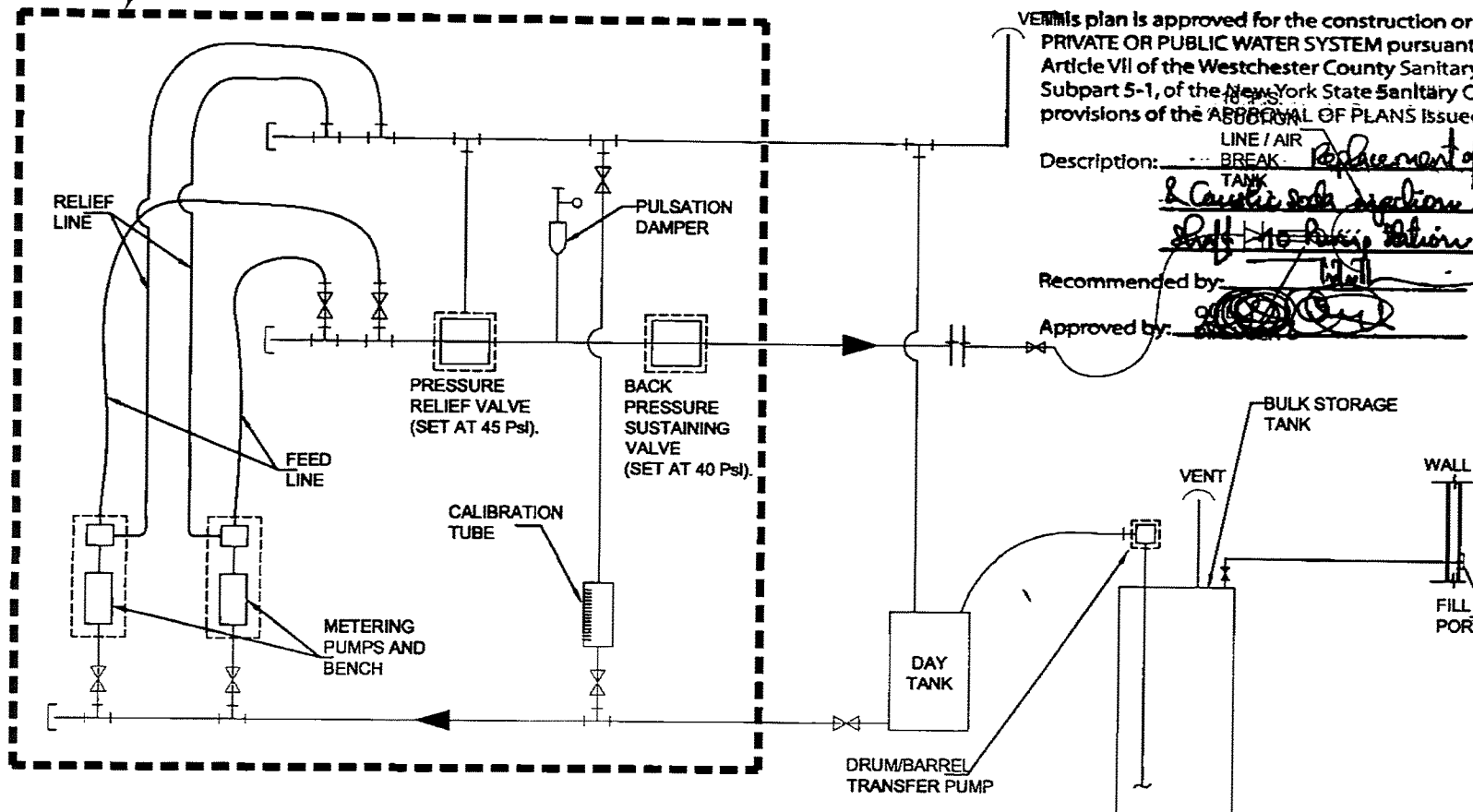
The chemical injection metering pump installed does not change or modify the pre-existing chemical application, injection procedure, capacity, or chemical feed rate. As part of the rehabilitation work, the new chemical injection metering system included new metering pumps, calibration tube, pressure relief valves, back pressure sustaining valves, pulsation damper, manifold piping, and pressure gauges with a new system of similar capacity. Refer to the attached "LCV Dual Hypo Feed Panel System Flow Diagram" for Orthophosphate piping layout and connection details. The existing metering pumps (1.3GPH-Orthophosphate) are replaced with same capacity pumps.

REPLACE EXISTING METERING PUMPS AND CHEMICAL FEED PIPING SYSTEM AS SHOWN
HEREIN, WITH THE NEW LCV DUAL ORTHOPHOSPHATE FEED PANEL SYSTEM (PUMPS MODEL
LMI C901-498NI), MANUFACTURED BY H2O CONTROLS. REFER TO THE ATTACHED SYSTEM FLOW
DIAGRAM AND MANUFACTURER'S DETAILS ON DRAWING NO. 2 & 3

WESTCHESTER COUNTY DEPARTMENT OF HEALTH
Bureau of Environmental Quality

THIS plan is approved for the construction or modification of a
PRIVATE OR PUBLIC WATER SYSTEM pursuant to
Article VII of the Westchester County Sanitary Code and Part 5,
Subpart 5-1, of the New York State Sanitary Code, subject to
provisions of the APPROVAL OF PLANS issued this date.

Description: Replacement of Orthophosphate
& Corrosion Inhibitor System @
Shaft-10 Pumping Station Tarrytown CT
Recommended by: [Signature] Date 4/4/13
Approved by: [Signature] Date 4/11/13



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N.Y. CERTIFICATE OF AUTHORIZATION #0002562 (LLC)

REV.	DATE	DESCRIPTION	PROJECT NAME
			VILLAGE OF TARRYTOWN WESTCHESTER COUNTY, NEW YORK
			REPLACEMENT OF CORROSION INHIBITOR FEED SYSTEM SHAFT-10 PUMPING STATION REHABILITATION WORK
			EXISTING LAYOUT
AH	AJ	158	12/18/12
			N.T.S.
			1

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THE ALTERED PERSON SHALL COMPLY WITH THE REQUIREMENTS OF
THE NEW YORK STATE LAW SECTION 220(2)."

- LCV SKID MOUNTED
PANEL BY H₂O CONTROLS



- APPROVED FOR CONSTRUCTION
- APR 11 2013
- WEST. CO. DEPT. OF HEALTH
(See First Sheet for Authorized Signature)

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REV	DATE	DESCRIPTION	project name VILLAGE OF TARRYTOWN WESTCHESTER COUNTY, NEW YORK			
			REPLACEMENT OF CORROSION INHIBITOR CHEMICAL FEED SYSTEM SHAFT-10 PUMPING STATION REHABILITATION WORK			
			PROPOSED LAYOUT			
drawn by	checked by	project no.	date	scale	sheet no.	
AH	AJ	156	12/18/12	N.T.S.	2	

Assigned by AH	Reviewed by AJ	Project No. 156	Date 12/18/12	Rating N.T.S.	Summary No. 3
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